

REMARKS

Claims 1-6, 9, 11, 13, 15-17, 19, 21, and 23-26 are pending in this application. By this Amendment, claims 1, 11, 13, 16, and 19 are amended and claims 10, 12, 18 and 22 are canceled. No new matter is added.

Applicants appreciate the courtesies shown to Applicants' representative by Examiner Sliteris in the May 25 personal interview. Applicants' separate record of the substance of the interview is incorporated into the following remarks.

I. Formal Matters

Applicant acknowledges the indication that claims 11 and 19 contain allowable subject matter. By this Amendment, claims 11 and 19 are amended to be in independent form. Claims 11 and 19 are believed to be in condition for allowance.

In the Office Action, the drawings are objected to for not illustrating that each transmission unit is "extendible and retractable" and not illustrating a "constant velocity joint that is extendible and retractable." This objection is respectfully traversed.

However, to expedite prosecution, the claims and paragraph [0018] of the specification are revised to omit this feature. The claims now recite that the transmission unit includes a constant velocity joint that accommodates pivoting of the suspension member relative to the chassis. As agreed upon, this is fully supported by the original specification and drawings. Withdrawal of the objection to the drawings is respectfully requested.

In the Office Action, claim 26 is objected to. By this Amendment, the noted informality is remedied. Withdrawal of the objection is respectfully requested.

In the Office Action, claims 1-6, 9-13, 15-19, 21 and 23-26 are rejected under 35 U.S.C. §112, first paragraph. In particular, the Office Action alleges that there is insufficient description of the constant velocity joints 19 and 21 to show how the drive train is extendible

and retractable between the drive motor 18 and the wheels 114, 116. This rejection is respectfully traversed.

As discussed above, the claims are revised to clarify that the constant velocity joints accommodate pivoting of a suspension member relative to a drive motor. As agreed, this is fully supported by the specification and drawings as filed. Accordingly, the claims are fully enabled by the disclosure. Withdrawal of the rejection is respectfully requested.

II. Pending Claims Define Patentable Subject Matter

In the Office Action, claims 1, 5, 9, 12, 13, 16, 17, 21 and 23-26 as best understood are rejected under 35 U.S.C. §102(b) over U.S. Patent No. 1,481,405 to Anglada. This rejection is respectfully traversed.

Independent claims 1 and 16 are amended to better define the subject matter being claimed. Independent claims 1 and 16 clarify that the suspension members which are rotatably attached to the chassis are trailing arm suspension members. This feature was previously found in dependent claims 10 and 18, respectively. Additionally, both claims 1 and 16 recite that a constant velocity joint accommodates pivoting of the suspension member. This feature in independent claim 1 was previously in dependent claim 12. This feature was already present in independent claim 16. Both independent claims 1 and 16 also recite that at least two electric drive units are rigidly mounted on the chassis itself (separate from the suspension members) and have an axis of rotation substantially perpendicular to the first axis.

As agreed during the personal interview, Anglada does not teach a trailing arm suspension member that rotates around a pivot. Rather, it teaches use of two leaf springs 11 on which a solid rear axle 16 is mounted. Moreover, the coupling between the motor and the wheels is taught to be a universal joint 19. See page 1, lines 83-92 and Fig. 2. A universal joint has very limited mobility, and is not a "constant velocity joint." A constant velocity joint is different in structure from a universal joint and can achieve greater flexibility while

maintaining constant velocity. Moreover, with respect to dependent claims 13 and 21, Anglada fails to teach use of a drive shaft with two constant velocity joints, such as Applicants' joints 19 and 21. The use of double joints provides additional flexibility in accommodating movement. Further, with respect to dependent claim 24, Anglada fails to teach a step down gearing separate from a right angle gearbox.

As agreed, because Anglada fails to teach each and every feature of independent claims 1 and 16, these claims and the claims dependent therefrom are not anticipated by Anglada. Withdrawal of the rejection is respectfully requested.

In the Office Action, claims 1-6, 9, 10, 12, 16-18 and 23-26 as best understood are rejected under 35 U.S.C. §102(b) over U.S. Patent No. 5,924,504 to Ruppert, Jr. This rejection is respectfully traversed.

Independent claims 1 and 16 are discussed above and recite two trailing arm suspension members and two electric motors rigidly mounted on the chassis separate from the suspension members, with a constant velocity joint accommodating pivoting of the suspension relative to the chassis.

As agreed, Ruppert fails to teach or suggest such claimed features. Rather, Ruppert teaches away from the claimed invention by teaching the desirability to pivotally attach electric motor 30 to pivoting suspension beam 29 through a movable connection 70. See col. 3, lines 29-39 and Fig. 4 where it teaches the pivotal connection upon which the electric motor 30 pivots relative to the pivoting suspension beam. Moreover, with respect to the subject matter of dependent claims 13 and 21, Ruppert fails to teach or suggest a drive shaft with two constant velocity joints. Further, with respect to dependent claim 24, Ruppert fails to teach a step down gearing separate from a right angle gearbox.

As agreed, because Ruppert fails to teach each and every feature of independent claims 1 and 16, these claims and the claims dependent therefrom are not anticipated. Withdrawal of the rejection is respectfully requested.

During the personal interview, the Examiner indicated the possibility of a 35 U.S.C. §103 rejection based on the combination of Ruppert and Anglada. To expedite prosecution, Applicants provide the following reasons why this combination would be improper.

Anglada is directed to a leaf-spring suspension. As shown in Figure 2, this type of suspension has limited vertical movement. Moreover, the gearbox 15 with such a suspension system moves substantially vertically only (i.e., it does not pivot or rotate to a great extent). Additionally, Anglada teaches use of a universal joint connection. This also has limited mobility, which is consistent with the limited mobility of the suspension system itself.

Ruppert is directed to a trailing arm suspension system in which a gear is mounted to the suspension arm itself. Because the suspension arm moves by pivotable action, the gear assembly will likewise be subjected to large pivotable motion, much greater than that achieved in Anglada. Because of this different type of motion during travel of the suspension system, one of ordinary skill in the art concerned with a trailing arm suspension would not have looked to the teachings of Anglada to connect to the gear arrangement in Ruppert. Moreover, if anything, Ruppert teaches against such a combination by teaching the desirability of mounting the electric motor on the pivotable suspension arm 29 itself, rather than to a chassis. Ruppert provides several advantages to this, including reduction in the overall weight of the assembly. See column 1, lines 45-50. Additionally, to accommodate movement, Ruppert teaches that the electric motor should be pivotably connected by means of a movable connection 70.

Thus, not only does Ruppert teach away from providing the electric motor on the chassis, Ruppert also teaches away from a rigid motor connection, instead teaching the

desirability of a pivotal connection. This is contrary to teachings in Anglada. Because Ruppert is directed to a trailing arm suspension and is indicated to accommodate movements encountered by a gear mounted on a trailing arm suspension, one of ordinary skill in the art would not have looked to teachings of Anglada, which does not encounter such pivotal movements, but instead encounters primarily vertical movement only.

Accordingly, there is no motivation absent hindsight consideration of Applicant's specification to combine Anglada with Ruppert. Rather, when read as a whole, the references teach away from the combination and the claimed invention.

Applicants, however, have found advantages to rigidly mounting the drive unit (i.e., electric motor) to the chassis separate from the suspension members. This has been found to accommodate full mobility of the trailing arm suspension system when combined with one or preferably two constant velocity joints, which can accommodate not only the movement of the suspension member relative the chassis, but also accommodate the rotation of the gearbox on the trailing arm suspension member. This combination of features also may provide other advantages. For example, by moving the electric motor away from the trailing arm suspension member, there is less weight acting on the moving suspension arm. Second, by rigidly mounting the electric drive to the chassis, the electric motor can be isolated from the severe vibrations that would be encountered if it was directly mounted on the suspension member. Additionally, by locating the electric motor on the chassis, the space requirements for the trailing arm suspension can be reduced. This may provide additional space for seating.

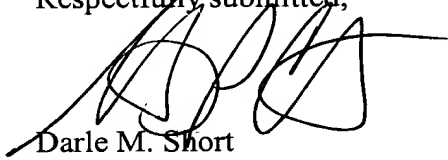
Based on the above, it is respectfully submitted that it would not have been obvious to one of ordinary skill in the art to combine the teachings of Anglada and Ruppert to derive the presently claimed subject matter.

III. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-6, 9, 11, 13, 15-17, 19, 21, and 23-26 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,


Darle M. Short
Registration No. 29,213

Stephen P. Catlin
Registration No. 36,101

DMS:SPC/spc

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OLIFF & BERRIDGE, PLC
P.O. Box 19928
Alexandria, Virginia 22320
Telephone: (703) 836-6400

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